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Quality Engineering Test Report

SERIES: SD-100C **100W DC-DC SINGLE OUTPUT SWITCHING POWER SUPPLY**

SAMPLE: **A. SD-100C-5 5V / 20A**
B. SD-100C-12 12V / 8.5A
C. SD-100C-24 24V / 4.2A

NO	TEST ITEM	TEST CONDITION / SPECIFICATION	RESULT	VERDICT
1	DC INPUT VOLTAGE RANGE	I/P : TESTING SPEC : 36~72VDC O/P : FULL LOAD	B:28~72VDC	P
2	LINE REGULATION	I/P : 36~72VDC SPEC : A:±0.5% O/P : FULL LOAD B:±0.3% C:±0.2%	A:0%~+0% B: 0%~+0 % C: 0%~+0%	P
3	LOAD REGULATION	I/P : 48VDC SPEC : A:±0.5% O/P : MIN. TO FULL LOAD B:±0.3% C:±0.2%	A:-0.24%~+0.24% B: -0.10%~+0.15% C: -0.02%~+0.02%	P
4	OUTPUT VOLTAGE TOLERANCE	I/P : 36~72VDC SPEC : A:±2% O/P : MIN. TO FULL LOAD B:±1% C:±1%	A:-0 %~+1.7% B:-0.21%~+0.05% C:-0.08%~+0 %	P
5	RIPPLE&NOISE	I/P : 48VDC SPEC : A:100mVp-p O/P : FULL LOAD B:120mVp-p C:150mVp-p	A: 8mV B: 17mV C: 14mV	P
6	DC INPUT CURRENT	I/P : 48VDC SPEC : 3A O/P : FULL LOAD	B:2.5A	P
7	O/P VOLTAGE ADJ. RANGE	I/P : 48VDC SPEC : A:4.5~5.5V O/P : MIN. LOAD B:11~16V C:23~30V	A:4.42~6.19V B:9.38~16.40V C:22.05~32.95V	P
8	SET UP TIME	I/P : 48VDC SPEC : 2S O/P : FULL LOAD	B:1.8S	P
9	EFFICIENCY	I/P : 48VDC SPEC : A:75% O/P : FULL LOAD B:77% C:81%	A:79.0% B:81.0% C:84.7%	P
10	OVER LOAD PROTECTION	I/P : 48VDC SPEC : 105%~135% O/P : TESTING	A:125% B:116.8% C:126.4%	P
11	OVER VOLTAGE PROTECTION	I/P : 48VDC SPEC : A:5.75V~6.75V O/P : 10% LOAD B:16.8V~20V C:31.5V~37.5V	A:6.45V B:17.5 V C:33.89V	P
12	INSULATION RESISTANCE	SPEC : I/P-O/P : 500VDC/100M Ohms MIN. I/P-FG : 500VDC/100M Ohms MIN. O/P-FG : 500VDC/100M Ohms MIN.	B: I/P-O/P : >100M Ohms I/P-FG : >100M Ohms O/P-FG : >100M Ohms	P

NEXT

<table>
<tr><th>NO</th><th>TEST ITEM</th><th>TEST CONDITION / SPECIFICATION</th><th>RESULT</th><th>VERDICT</th></tr>
<tr><td>13</td><td>DIELECTRIC / WITHSTAND VOLTAGE</td><td>SPEC : I/P-O/P : 1500VAC/ 1 min (10mA CUT-OFF).
I/P-FG : 1500VAC/ 1 min (10mA CUT-OFF)
O/P-FG : 500VAC/ 1 min (10mA CUT-OFF)</td><td>B: I/P-O/P : <2.59mA
I/P-FG : <3.15mA
O/P-FG : <3.06mA</td><td>P</td></tr>
<tr><td>14</td><td>BURN-IN TEST</td><td>I/P : 48VDC O/P:FULL LOAD
TA : 24.5°C BURN-IN DURATION : 4 hrs</td><td>B:NON BREAK</td><td>P</td></tr>
<tr><td>15</td><td>ENVIRONMENT TEST (SAMPLE A:</td><td>B:.HIGH AMBIENT TEMPERATURE FULL LOAD TEST
I/P : 48VDC O/P : FULL LOAD
AMBIENT TEMPERATURE : 40°C</td><td>B:AFTER 4 hrs NON BREAK</td><td>P</td></tr>
<tr><td>16</td><td>TEMPERATURE RISE TEST T rise OF PARTS</td><td>B: I/P : 48VDC AFTER 4 hr BURN-IN
O/P : FULL LOAD TA : 24.5°C
<table>
<tr><th>POSITION</th><th>P/N</th><th>TEMP</th><th>T rise</th></tr>
<tr><td>Q1</td><td>MAIN TRANSISTOR</td><td>82.1°C</td><td>57.6°C</td></tr>
<tr><td>T1</td><td>MAIN TRANSFORMER</td><td>78.2°C</td><td>53.7°C</td></tr>
<tr><td>D11</td><td>O/P DIODE</td><td>72.5°C</td><td>48.0°C</td></tr>
<tr><td>C33</td><td>O/P FILTER CAPACITOR</td><td>59.7°C</td><td>35.2°C</td></tr>
<tr><td>L1</td><td>O/P CHOCK</td><td>71.8°C</td><td>47.3°C</td></tr>
<tr><td>C5</td><td>I/P FILTER CAPACITOR</td><td>45.2°C</td><td>20.7°C</td></tr>
</table></td><td></td><td>P</td></tr>
<tr><td>17</td><td>LIFE CYCLE</td><td>B: SUPPOSE C33 IS THE MOST CRITICAL COMPONENT
I/P : 48VDC O/P : FULL LOAD Ta : 25°C Tc33 : 60.2°C Life: 24250 hrs
I/P : 48VDC O/P : FULL LOAD Ta : 40°C Tc33 : 79.2°C Life: 6497hrs</td><td></td><td>P</td></tr>
<tr><td>18</td><td>CRITICAL COMPONENT RECORD (FOR QC INSPECTION REFERENCE ONLY)</td><td colspan="3">B: FUSE : 5AL/250V 5x20 G
INPUT DIODE : 1N5401
LINE FILTER : LF TF-096B EE-25
TRANSFOMER : MT TF-312-R1 EER-28L
POWER SWITCHER : TRFP250 TO-3P
OUTPUT DIODE : D9202 TO-3P
OUTPUT CAPACITOR : 1000uF/25V(v) 105°C HL
INPUT CAPACITOR : 220uF/100V(v) HL 105°C
P.C.B : SD-100N-R2 FR-4 2 OZ DS</td></tr>
<tr><th>DATE</th><th>SAMPLE</th><th>TEST RESULT</th><th>TEST</th><th>APPROVAL</th></tr>
<tr><td>980703</td><td>SD-100C</td><td>PASS</td><td>H.C.LIOU</td><td>Max Lin</td></tr>
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